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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,982	06/29/2001	Lance W. Dover	42390P11008	9264

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN  
12400 WILSHIRE BOULEVARD, SEVENTH FLOOR  
LOS ANGELES, CA 90025

EXAMINER

PORTKA, GARY J

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 03/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/895,982

Applicant(s)

DOVER, LANCE W.

Examiner

Gary J Portka

Art Unit

2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 June 2001.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-40 is/are pending in the application.  
4a) Of the above claim(s) 9-30 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-8 and 31-40 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 29 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-8 and 31-40, drawn to apparatus and system with memory, memory sensing unit, request queue, and arbiter for return data sequence, classified in class 711, subclass 150.
  - II. Claims 9-16 and 25-30, drawn to method and medium for receiving and sensing multiple memory requests, returning critical data, and returning non-critical data, classified in class 711, subclass 151.
  - III. Claims 17-24, drawn to virtual port memory device, classified in class 711, subclass 149.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I, II, and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as an apparatus with arbiter for a return data sequence, without regard to critical data or virtual port. Invention II has separate utility such as method of returning critical or non-critical data, without regard to an arbiter and request queue, or virtual port. Invention III has separate utility such as a device with virtual port, without regard to critical data return. See MPEP § 806.05(d).

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Because these inventions are distinct for the reasons given above and the search required for each group is not required for the other groups, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Lester Vincent on March 11, 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-8 and 31-40. Affirmation of this election must be made by applicant in replying to this Office action. Claims 9-30 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Information Disclosure Statement***

6. The information disclosure statement (IDS) submitted on August 6, 2001 (paper no. 2) was considered by the examiner.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-8 and 31-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Wilson et al., U.S. Patent 5,208,914.

9. As to claims 1 and 3-7, Wilson discloses an apparatus comprising request queue 301 coupled to memory 403 via memory-sensing device (see below), response queue 305, and arbiter 306 coupled thereto (see Fig. 5a and 5b, also Abstract, col. 4 lines 5-10, col. 6 lines 47-49, col. 7 lines 4-17, and col. 12 line 28 to col. 13 line 27. Any memory inherently requires a sensing device (for example, sense amps) as claimed in order to be able to read data from the memory, and therefore that any connection to the memory is coupled thereto via the sensing device. Alternatively, the crossbars and catch and hold queues shown in Fig. 5b at 401, 402, 404 and 406 may be considered the recited sensing device, since they sense requests to and data from the memory.

10. As to claim 2, in Wilson the memory-sensing device comprises redundant circuitry sensing memory substantially simultaneously (see Fig. 4 at 50, Figs. 5a and 5b at 50 and 14, and sections cited hereinabove; there are memory-sensing devices that may operate in parallel for each memory 14).

11. As to claim 8, Wilson discloses request arbiter at 303, Fig. 5a.

12. As to claims 31-37, Wilson discloses the claimed invention substantially as described above with regard to claims 1-8; the arbiter determines the sequence as recited, and the memories 14 may be considered the recited partitions.

13. As to claims 38-40, Wilson discloses the claimed invention substantially as described above with regard to claims 1-8; a processor is shown at 10, memory controller as elements of 10 and 20, and I/O device at 22, Fig. 5a.

**Conclusion**

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patent No:

6,651,148 B2          Memory pipeline with read and write arbiters and queues.

6,622,225 B1          Memory with load and store queues, parallel sense amps.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary J Portka whose telephone number is (703) 305-4033. The examiner can normally be reached on M-F 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (703) 306-2903. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gary J Portka  
Primary Examiner  
Art Unit 2188



March 16, 2004